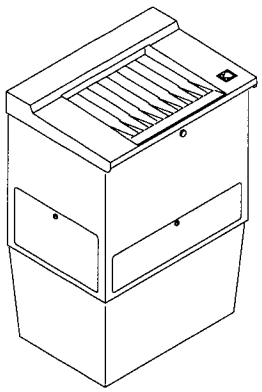
Site Specifications

Publication Part No. 1C0589
9/93
Supersedes 668081
12/87



KODAK *RP* X-OMAT Processor Models M7B and M7B-E

HEALTH SCIENCES

PLEASE NOTE

The information contained herein is based on the expenence and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

No patent license is granted by this information.

Eastman Kodak Company reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from the use of this information, even if loss or damage is caused by Kodak's negligence or other fault.

WARNING

To avoid hazardous conditions, keep floors and floor coverings around your *Kodak X-Omat* Processor and associated drains clean and dry at all times. Any accumulation of fluids from mixing tanks, drain lines, etc., should be cleaned up immediately. In the event of an accumulation of liquid due to backup, overflow, or other malfunction of the drain associated with your *X-Omat* Processor, call a plumber or other contractor to correct any problem with your drain. Kodak accepts no responsibility or liability whatsoever for the serviceability of any drain connected to or associated with a *Kodak X-Omat* Processor. Such drains are the sole responsibility of the customer.

NOTE

The *Kodak* RP *X-Omat* Processor, Model M7B-E is for use only outside the U.S.A. and Canada.

Table of Contents

Description	Page
Overview of the Processor	4
Dimensions and Weights	7
Feed-End View	8
New Wall Installation	9
Electrical Requirements	11
Agency Listings for Model M7B Only	11
Basic Requirements	11
Standard Service Option Chart	11
Main Power Disconnect - Wall mounted, not provided	12
Water and Drain Requirements	13
Water Supply	13
Drain	14
Environmental Requirements	15
Room Ambient Conditions	15
Air and Heat	15
Static Pressure Requirements	15
Replenishment System Requirements	19
Replenishment Tanks	19
Automixer	20
Recommended Room Layout	21
Seismic Kit	22
Center of Gravity	23
Warranty	25

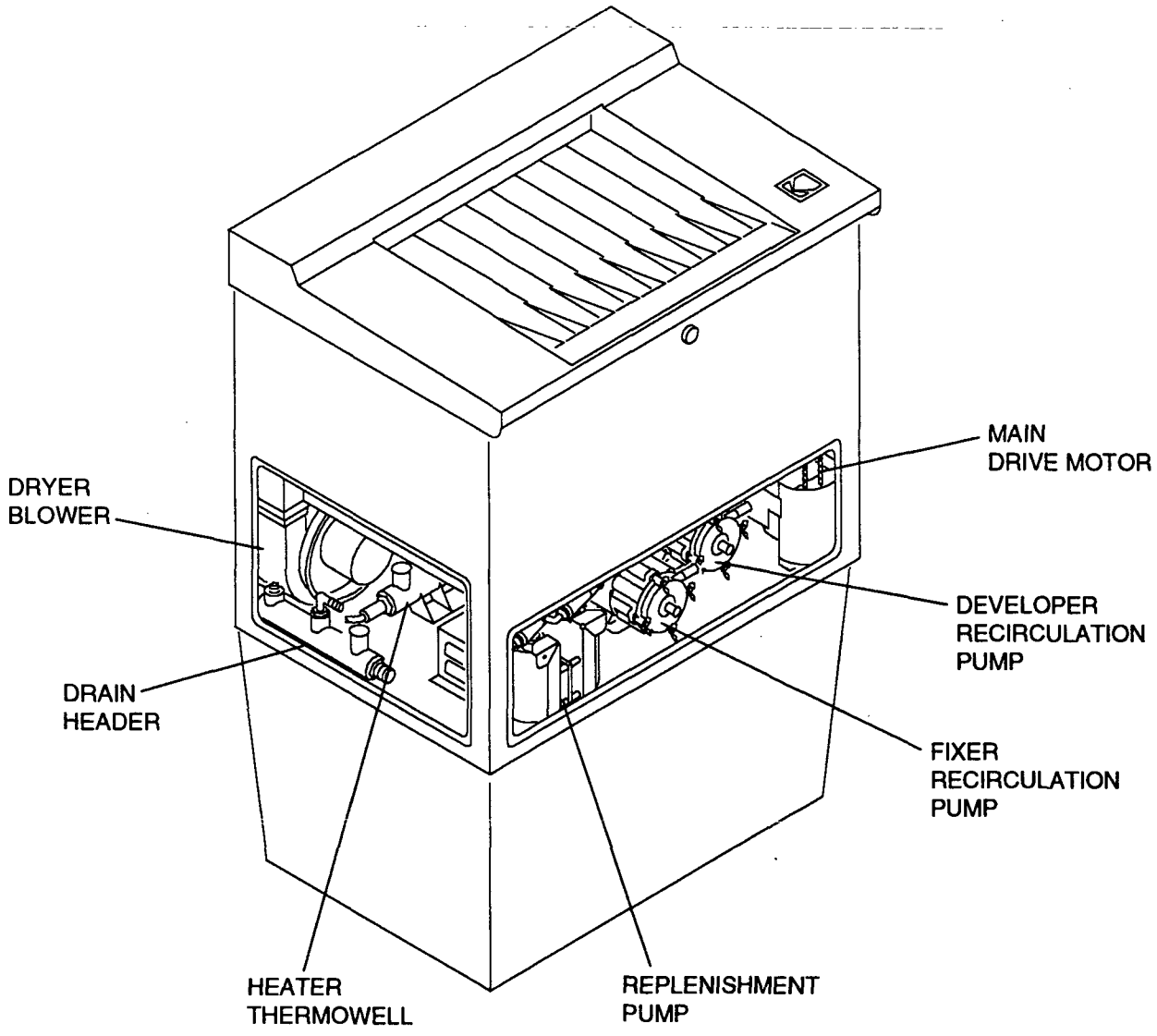


Figure 1 Receiving-End View, Model M7B Only

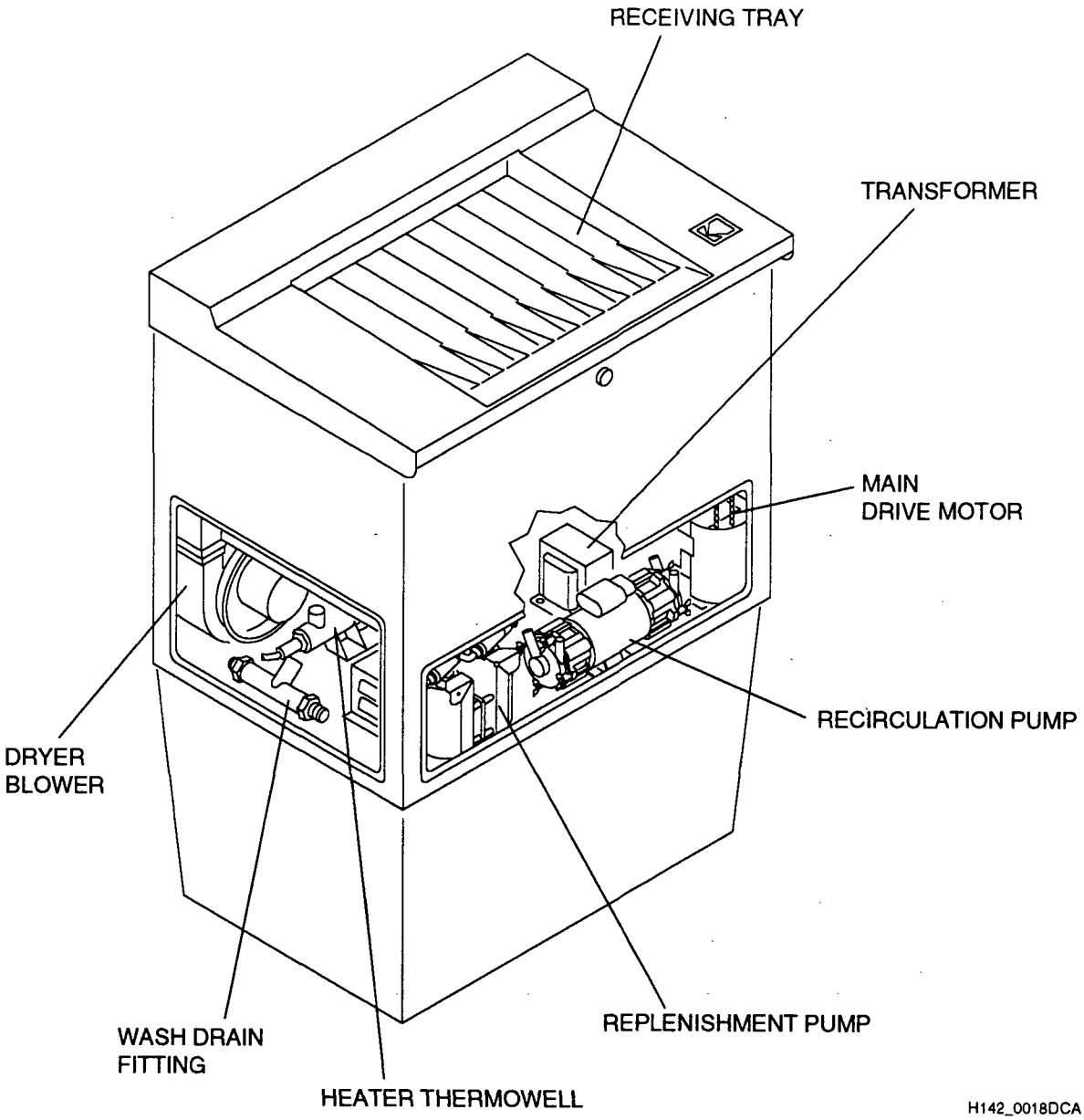


Figure 2 Receiving-End View, Model M7B-E Only

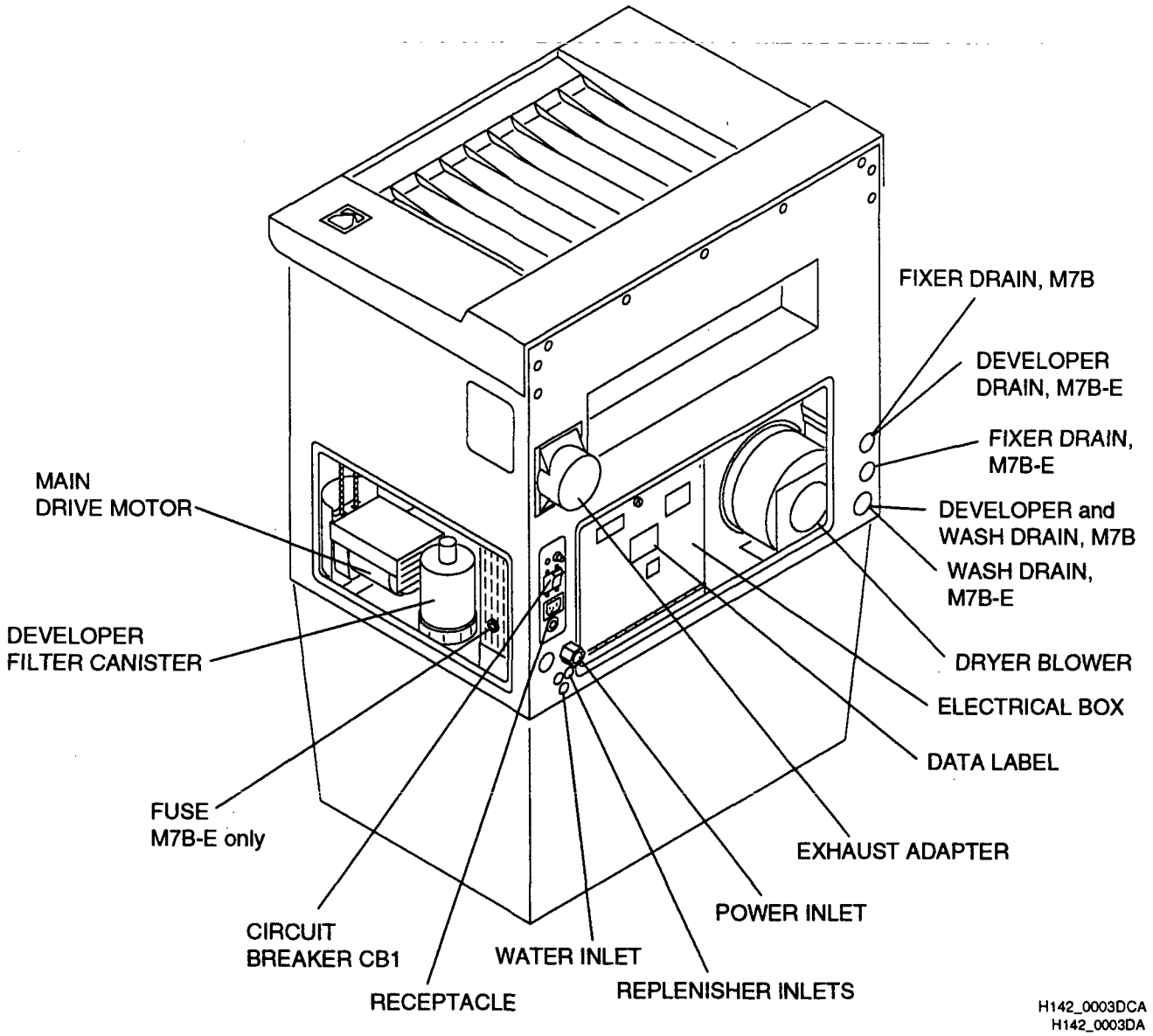


Figure 3 Feed-End View, Models M7B and M7B-E

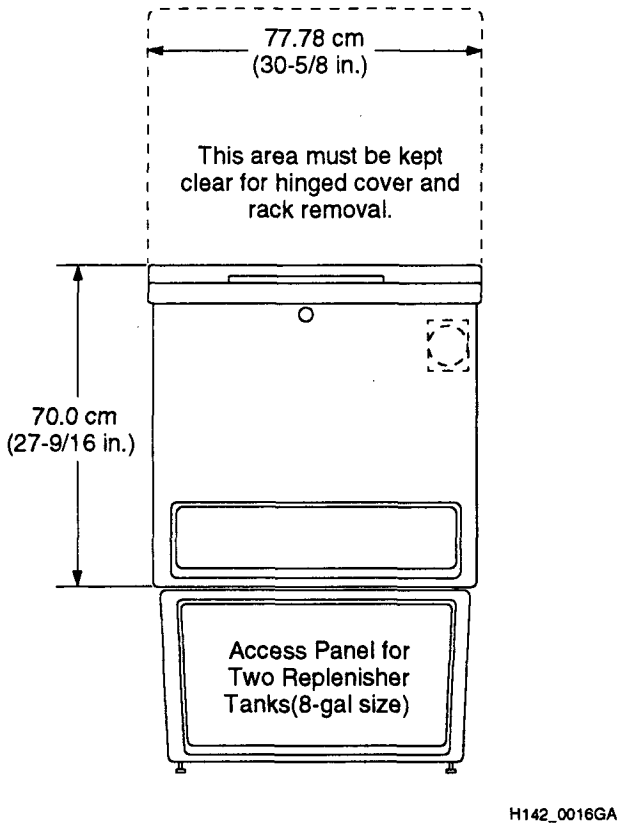

77.78 cm
(30-5/8 in.)
This area must be kept clear for hinged cover and rack removal.
70.0 cm
(27-9/16 in.)
Access Panel for Two Replenisher Tanks(8-gal size)
H142_0016GA

Figure 4 Receiving-End View

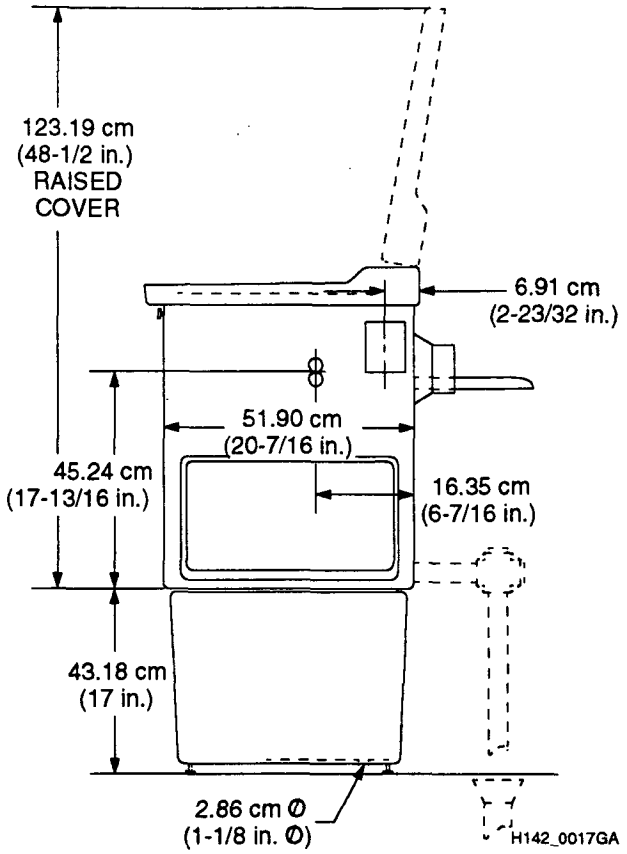


Figure 5 Side View

Table 1 Dimensions and Weight, Models M7B and M7B-E

Description	Crated	Uncrated
Length	68.58 cm (27 in.)	55.56 cm (21 7/8 in.) without feed tray 78.7 cm (31 in.) with feed tray
Width	91.44 cm (36 in.)	77.78 cm (30 5/8 in.)
Height	81.28 cm (32 in.)	70.0 cm (27 9/16 in.)
Weight (Tanks Empty)	215 kg (475 lb), M7B 220 kg (485 lb), M7B-E	125 kg (275 lb), M7B 129 kg (285 lb), M7B-E
Weight (Tanks Full)	Not Applicable	151 kg (333 lb), M7B 155 kg (343 lb), M7B-E

Feed-End View

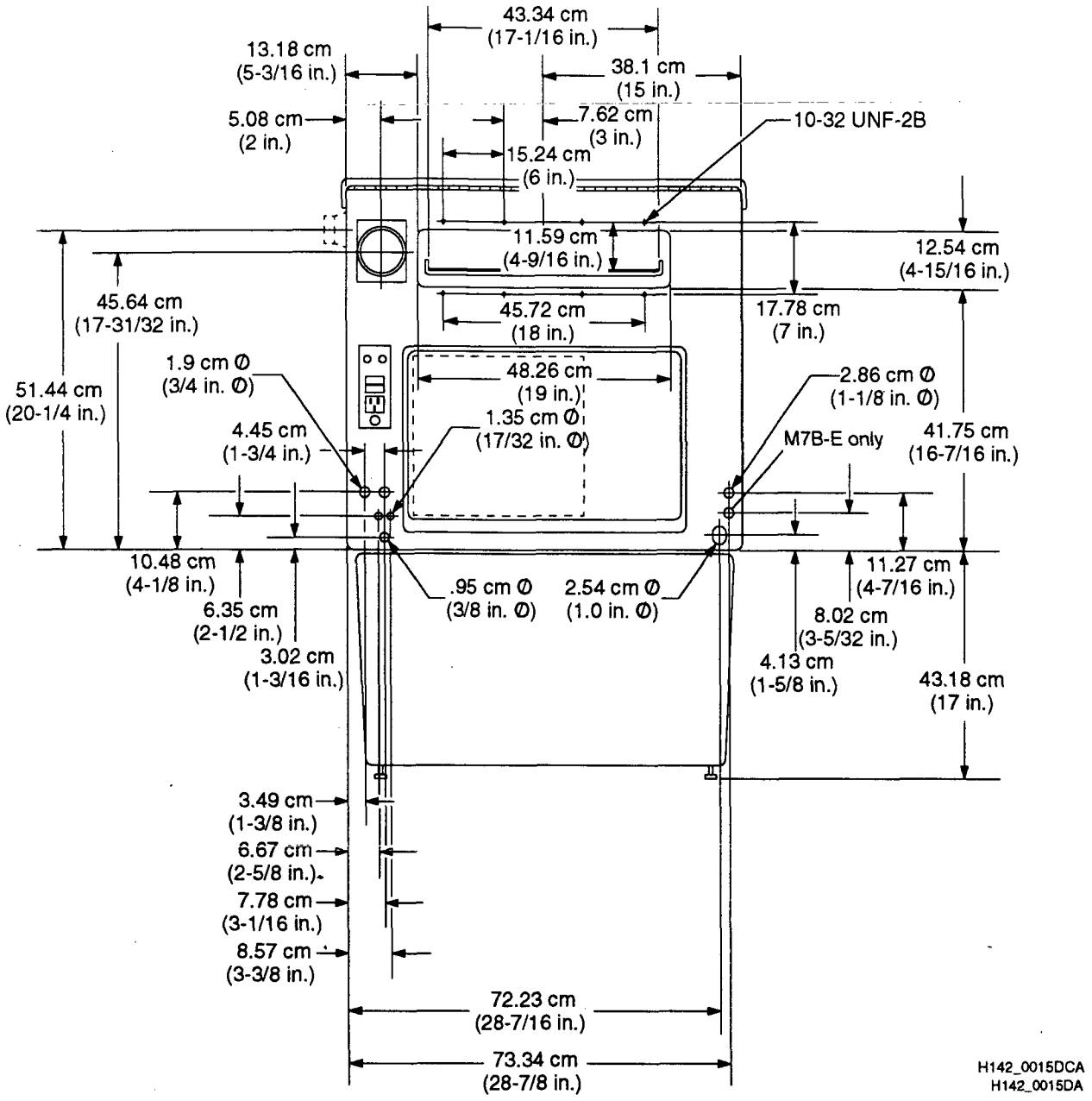


Figure 6 Feed-End Dimensions, Models M7B and M7B-E

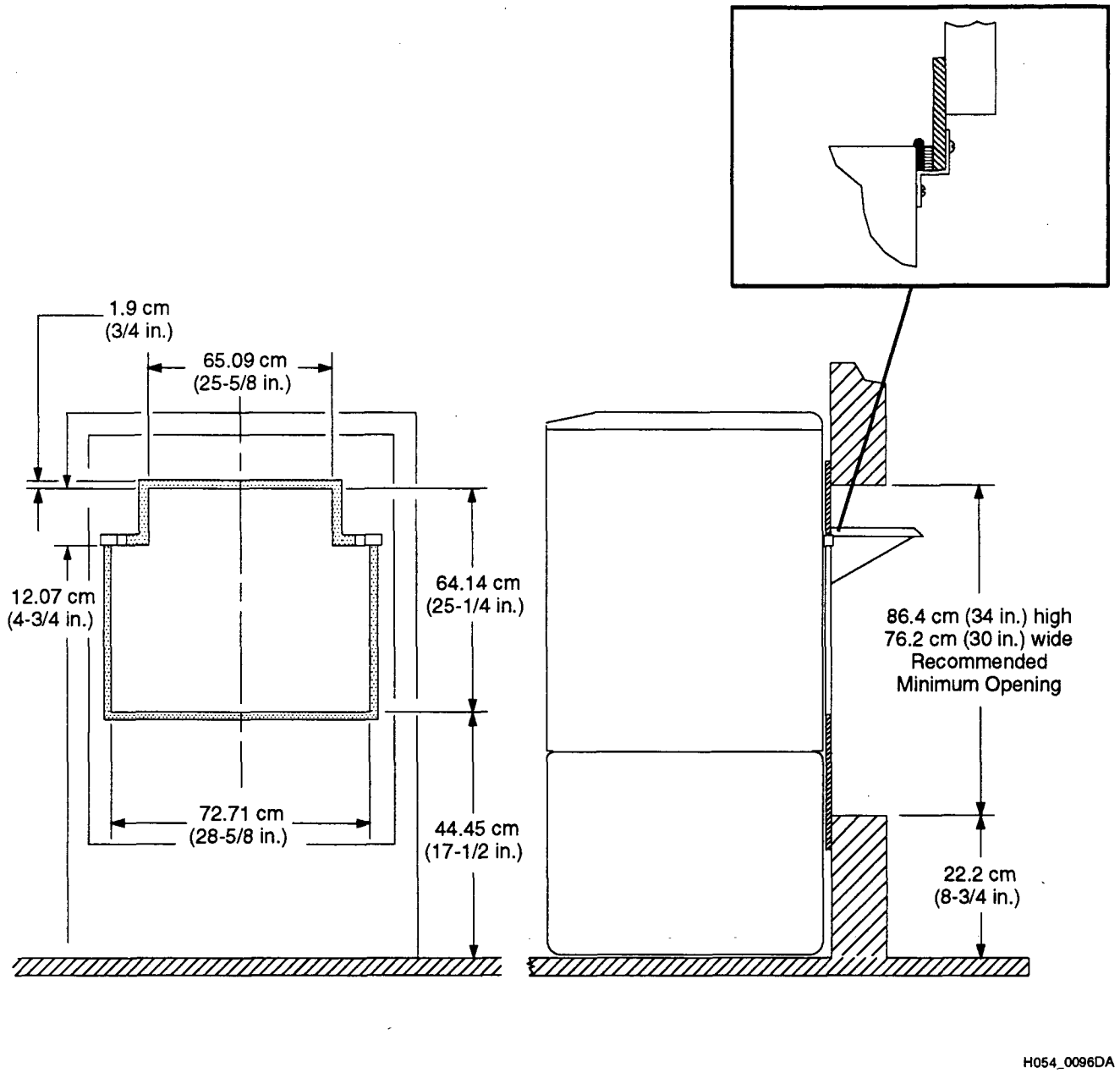


Figure 7 New Wall Installation, View 1

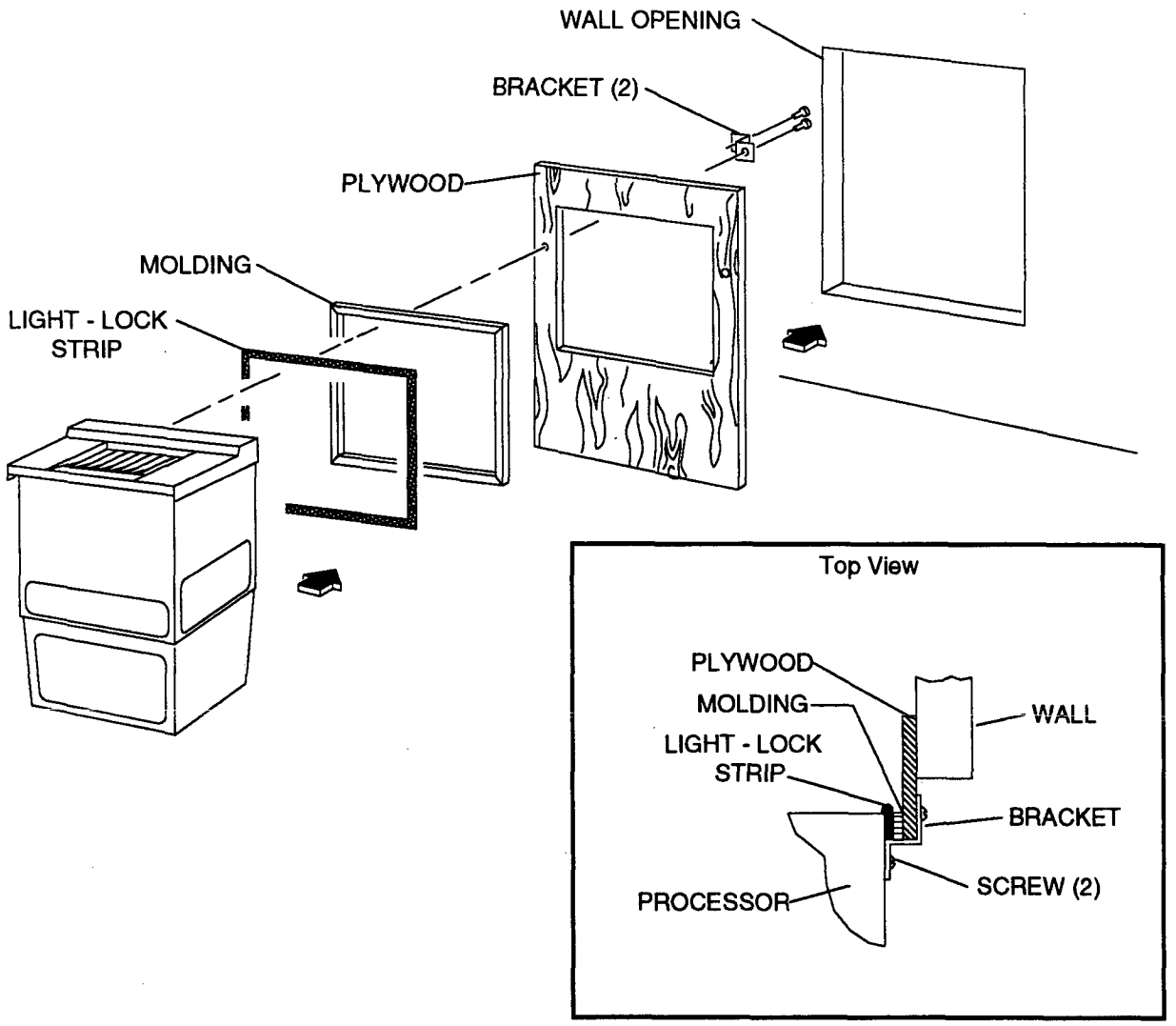


Figure 8 New Wall Installation, View 2

Electrical Requirements

Agency Listings for Model M7B Only

The processor complies with the requirements of the following agencies:

- UL Listed to Standard #122
- CSA Certified to Standard C22.2 No. 950-M89

Basic Requirements

- M7B: 20 A, 3-wire, single-phase, plus earth ground
- M7B-E:

  25 A, 2 or 3-wire, single-phase, plus earth ground

  20 A, 3 or 4-wire, 3-phase, plus earth ground

IMPORTANT

All electrical services, **including earth ground**, must comply with local and national electrical codes.

Standard Service Option Chart

Table 2 Service Options for Models M7B and M7B-E

Model	Voltage Volts	Frequency Hz	Service
M7B	120/240	50/60	3-wire, single phase, plus earth ground
	120/208	50/60	3-wire, single phase, plus earth ground
M7B-E	200	50/60	2-wire, single phase, plus earth ground
	100/200	50/60	3-wire, single phase, plus earth ground
	200	50/60	3-wire, 3-phase, delta, plus earth ground
	220	50/60	2-wire, single phase, plus earth ground
	110/220	60	3-wire, single phase, plus earth ground
	230	50	2-wire, single phase, plus earth ground
	240	50	2-wire, single phase, plus earth ground
	127/220	50	3-wire, 3-phase, wye, plus earth ground
	220/380	50	3-wire, 3-phase, wye, plus earth ground
	230/400	50	3-wire, 3-phase, wye, plus earth ground
	240/415	50	3-wire, 3-phase, wye, plus earth ground
	127/220	50	4-wire, 3-phase, wye, plus earth ground
	220/380	50	4-wire, 3-phase, wye, plus earth ground
	230/400	50	4-wire, 3-phase, wye, plus earth ground
	240/415	50	4-wire, 3-phase, wye, plus earth ground

Main Power Disconnect - Wall mounted, not provided

A Main Power Disconnect must be either a fused disconnect **or** a thermomagnetic circuit breaker, with solid neutral and 2-pole 30 AMP common trip.

The Main Power Disconnect **must** be—

(1) located on a wall adjacent to the processor in the lighted area and a safe distance from the water service.

(2) easily accessible from the processor site.

(3) visible from the processor site.

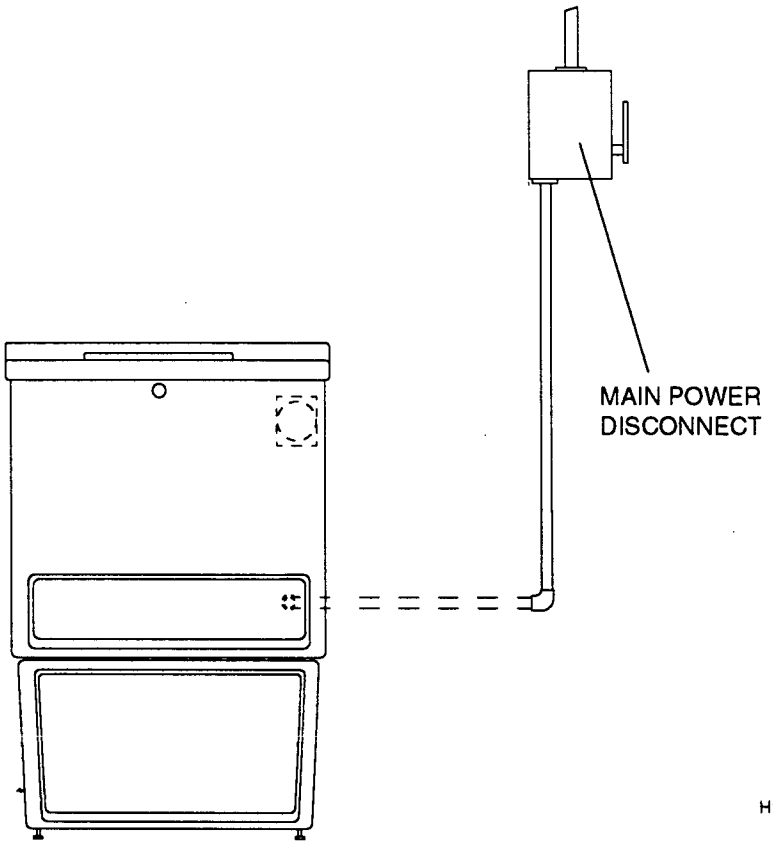


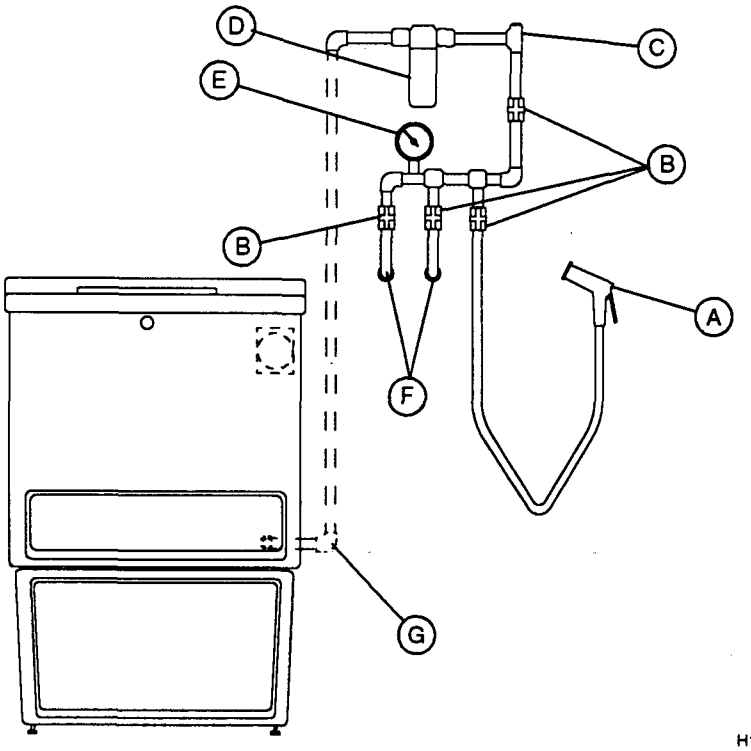
Figure 9 Electrical Connections

Water Supply

Temperature:	4.5 - 26.5°C (40 - 80°F) A mixing valve might be necessary.
Pressure:	172 to 448 kPa (25 to 65 psi); Install a regulator if suggested.
Flow:	Controlled within the processor to 3.8 L/min (1.0 gal/min), ±10%.
Filtration:	50 *micron filter suggested, not provided with the processor.*

IMPORTANT

- Water supply must comply with local codes; **do not** use iron piping.
- If the upper or lower limit of the room ambient temperature or the water supply temperature is exceeded, the developer and fixer temperatures may not be controlled correctly.
- Tempered water service is suggested for cleaning the processor and for mixing chemicals manually.
- See the "Water Connections" table on page 14.



H142_0014HCA
H142_0014HA

Figure 10 Water Connections

Table 3 Water Connections (continued)

A	Service Hose - suggested length to reach the processor and Replenishment Tanks.
B	Shutoff Valves 13 mm (½ in.) NPT. Available from Eastman Kodak Company, Part No. 459981, not provided with the processor.
C	13 mm (½ in.) NPT Check Valve
D	Filter, 50 micron, obtain locally
E	*Kodak* Thermostatic Mixing Valve 13 mm (½ in.) NPT - Available from Eastman Kodak Company, Part No. 467621, optional.
F	Hot and Cold Water Supply 13 mm (½ in.) NPT.
G	13 mm (½ in.) NPT Union. Locate as close to the processor as possible.

IMPORTANT

- Follow local electrical and plumbing codes.
- Specifications are subject to change without notice.
- Pass service through the wall to the feed end of the processor in the darkroom. Service controls may be located on either side of the processor for easy access.

Drain

WARNING

- Drains must be made of chemically resistant, non-corrosive material. Use PVC or equivalent.
- The Drain must have a minimum diameter of 7.6 cm (3 in.) and be free of obstruction.
- Drain service must comply with all local codes.

Capacity: 15 L/min (4 gal/min).

Connection: Open drain; avoid a solid connection to the processor to eliminate suction and biological growth conditions.

Room Ambient Conditions	**Temperature:**	15 - 30°C (59 - 86°F)
	Humidity:	15% to 76% relative humidity, non-condensing
Air and Heat	**Air Exhaust (full load):**	• Volume: 2124 L/min (75 ft^3/min) • Temperature: 57.2°C (135°F) maximum • *Moisture: 300 grains/min*
	Processor Exhaust Adapter:	10.2 cm (4 in.)
	Heat Load to Room:	4200 kJ/hr (4000 BTU/hr)

Static Pressure Requirements

IMPORTANT

- If the venting is not correct, fumes will corrode the equipment. Do not install the processor or accessories if the venting is not correct. Check local codes for venting requirements.
- The air flow is correct when the fumes are flowing out of the processor through the Exhaust Hose. **Before installing the processor, or when checking the static pressure later**, do the following procedure **to check that the air flow is correct.**

Do the following procedure, using an AIR METER, Kodak Part No. TL-2431, to check that the venting is correct.

[1] If the processor is installed, deenergize the processor.

[2] Disconnect the EXHAUST HOSE from the processor EXHAUST ADAPTER.

[3] Place the RUBBER HOSE on the CENTER CONNECTOR of the AIR METER.

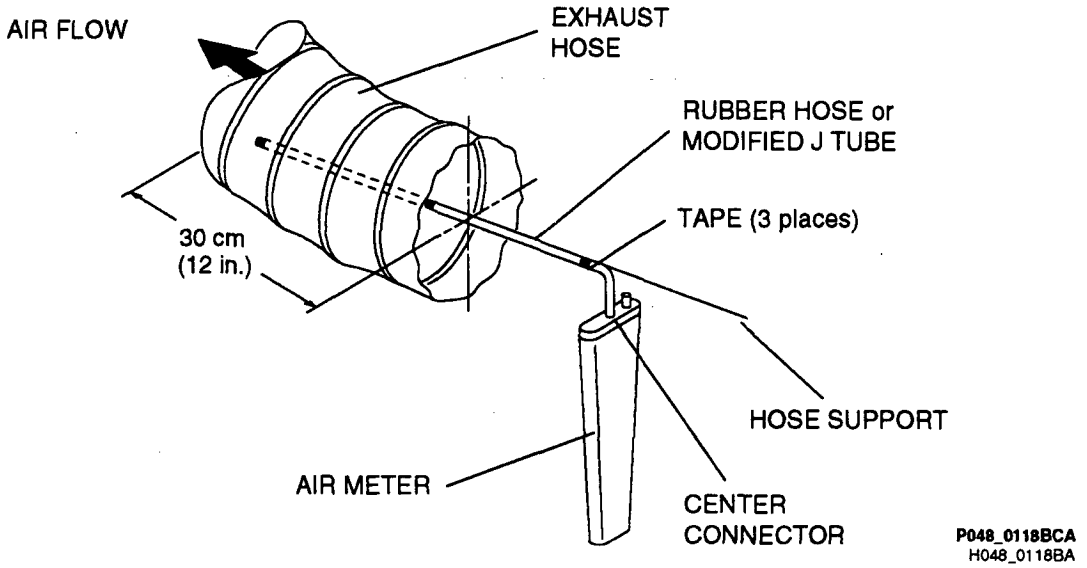


Figure 11 Using the Air Meter

[4] If a replenishment J TUBE, Part No. 592380, is available, do the following. If not, advance to step 5.

(a) Cut and discard the curved end of the replenishment J TUBE to make a straight TUBE.

(b) Install the tapered end of the replenishment J TUBE into the RUBBER HOSE.

(c) Advance to step 7.

[5] If a replenishment J Tube is not available, align a HOSE SUPPORT, such as a straightened coat hanger, next to the RUBBER HOSE. The ends of the HOSE SUPPORT and the RUBBER HOSE must be together.

IMPORTANT

- The tape should not inhibit the air flow through the RUBBER HOSE.
- The RUBBER HOSE or J TUBE must be in the center of the EXHAUST DUCT.

[6] Place tape around the HOSE SUPPORT and the RUBBER HOSE at 3 points. See Figure 11.

[7] Insert the replenishment J TUBE or the RUBBER HOSE into the EXHAUST HOSE until the end is 30 cm (12 in.) from the end of the EXHAUST HOSE.

[8] Hold the AIR METER vertically, and record the average of several readings.

[9] If a solid metal or rigid plastic DUCT is attached to the PROCESSOR preventing easy removal, do the following:

(a) Make a small hole, in the DUCT, approximately 30.5 cm (12 in.) from the venting connection of the PROCESSOR.

(b) Insert the L TUBE, provided with the AIR METER, through the hole.

NOTE

When measuring negative air, the opening of the TUBE should point in the direction of the air flow away from the PROCESSOR.

[10] Compare the average reading with the table:

Table 4 Measuring the Static Pressure

Duct Diameter	Negative Static Pressure, Water Head	
	MIN	MAX
7.6 cm (3 in.)	0.76 mm (0.03 in.)	1.02 mm (0.04 in.)
10.2 cm (4 in.)	0.25 mm (0.01 in.)	0.51 mm (0.02 in.)

[11] Adjust one of the following to obtain the required reading:

(a) the Damper, or Fan, in the building ventilation system or

(b) the clearance between the EXHAUST DUCT and the EXHAUST HOSE to 5 cm (2 in.). See the graphic.

[12] If the air flow reading is still not correct, the customer may consider the installation of the *Kodak* Auxiliary Ventilation Fan Kit, Part No. 264503.

[13] When the air flow reading is the same as the measurements in the table, connect all the HOSES.

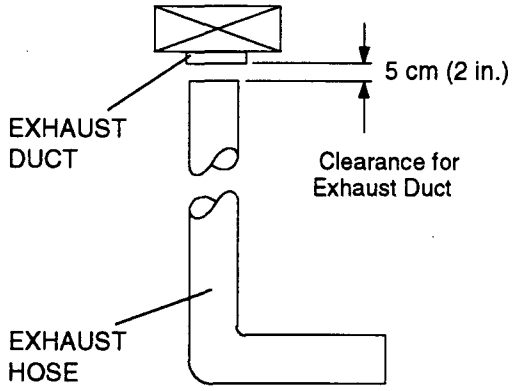


Figure 12 Exhaust Requirements

[14] If the processor has been installed, install the Covers and Panels on the processor.

IMPORTANT

- To obtain optimum results from the venting, instruct the customer that all Covers and Panels must be installed while the processor is energized.
- If the processor is installed through the darkroom wall, it is most important that the air pressure in the darkroom is greater than the air pressure of the area surrounding the darkroom.
- Air in a 27 m^3 (1000 ft^3) room should change 10 times each hour, including 2 exchanges of outside air.

[15] Do the following to check the air flow at the Feed Shelf:

(a) If the processor is installed, deenergize the processor.

(b) Hold a piece of tissue paper in front of the Feed Shelf.

NOTE

The air flow should be **toward** the processor.

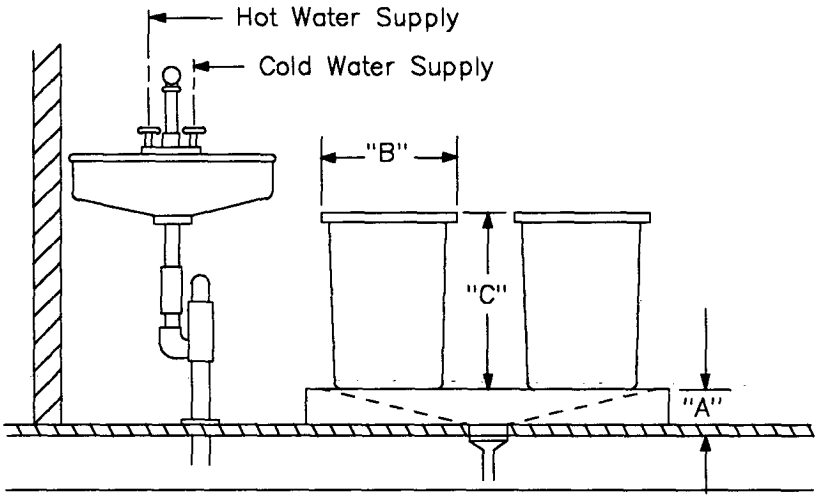
(c) If the tissue paper moves away from the processor:

Call the Kodak, Health Sciences Division, Imaging Service Center Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern time (716) 724-1789. Select option "1".

Replenishment Tanks

Table 5 Dimensions for Replenishment Tanks

DESCRIPTION	DIMENSION	8 gal	14 gal	30 gal	55 gal
Max Platform Height	"A"	---	48.3 cm (19 in.)	35.6 cm (14 in.)	15.2 cm (6 in.)
Tank Diameter	"B"	30.5 x 43.2 cm (12 x 17 in.)	43.2 cm (17 in.)	55.9 cm (22 in.)	61.0 cm (24 in.)
Tank Height	"C"	30.5 cm (12 in.)	58.4 cm (23 in.)	70.5 cm (27¾ in.)	90.8 cm (35¾ in.)
External Replenishment Tank Area If an automixer is used, see page 20 for dimensions.	"D" x "E" minimum See page 21.	---	61 x 127 cm (24 x 50 in.)	61 x 152.4 cm (24 x 60 in.)	66 x 172.7 cm (26 x 68 in.)



P104_0002BA

Figure 13 Replenishment Tanks

Tank Kit	Catalog No.			
	8 gal	14 gal	30 gal	55 gal
Kodak Developer Replenisher Tank Kit	---	151 1740	102 2987	151 1823
Kodak Fixer Replenisher Tank Kit	---	151 1765	102 2961	151 1849
Kodak Developer-Fixer Replenisher Tank Set, Model M7, rectangular	150 0537	---	---	---

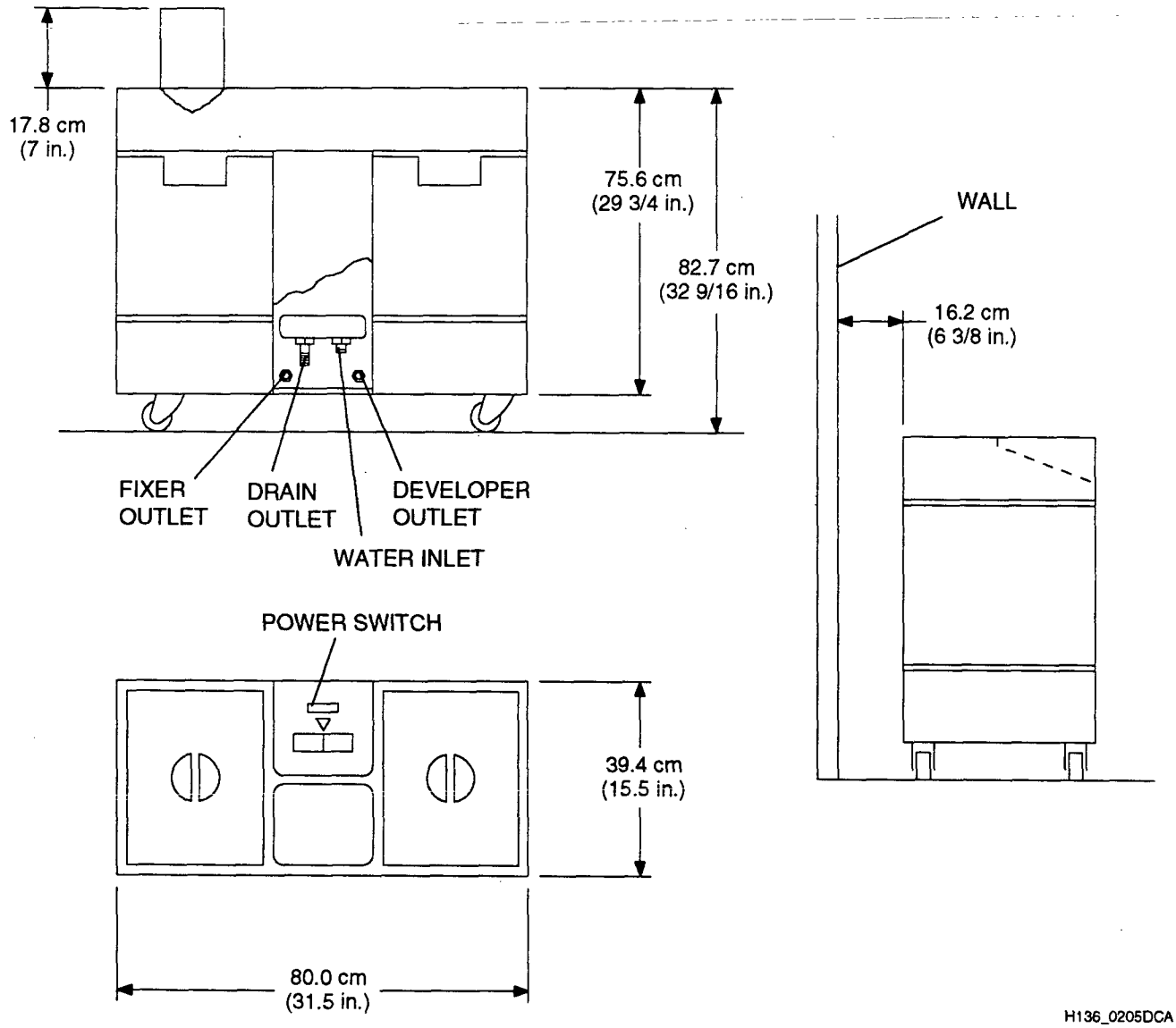


Figure 14 Automixer

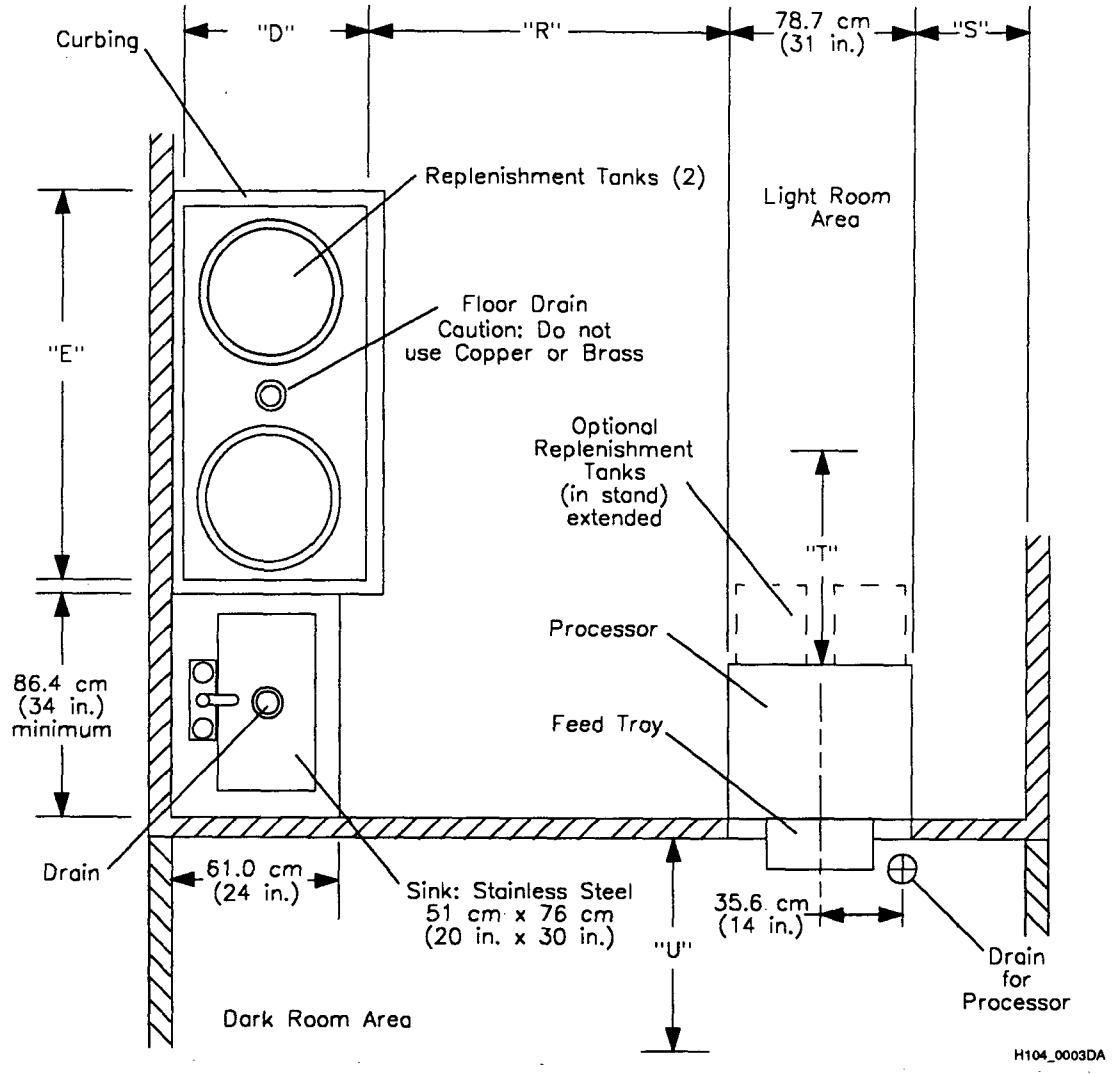


Figure 15 Suggested Room Layout Showing Replenishment Tanks and Drain Locations

Table 6 Maintenance and Operation Access Requirements

Symbol	Description	Recommendation
T	Receiving End of Processor	91.4 cm (36 in.)
U	Feed End of Processor	91.4 cm (36 in.)
R	Drive Side of Processor	91.4 cm (36 in.)
S	Non-Drive Side of Processor	91.4 cm (36 in.)
	Top of Processor, Cover raised, with Stand	170.2 cm (67 in.)

IMPORTANT

Local building codes may require installation of Seismic Brackets. If necessary, use Seismic Kit 261413, which includes:

Part No.	Description	Quantity
240104	Bracket	4
261898	Floor Plate	4
261929	Anchor, not shown	8
188623	Bolt - Stainless Steel	8
173824	Washer - Stainless Steel	8
261910	Instructions	1

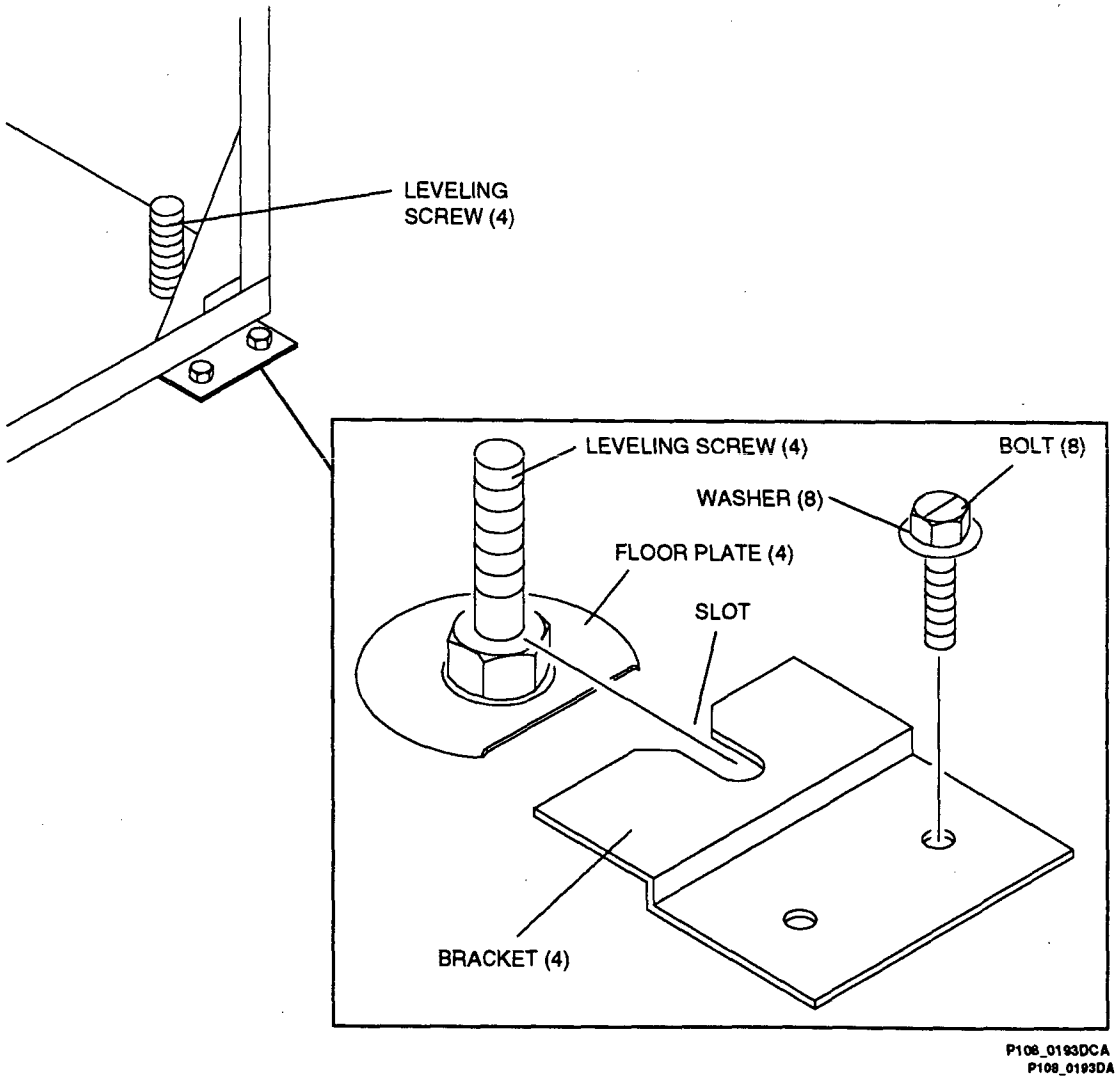


Figure 16 Seismic Kit

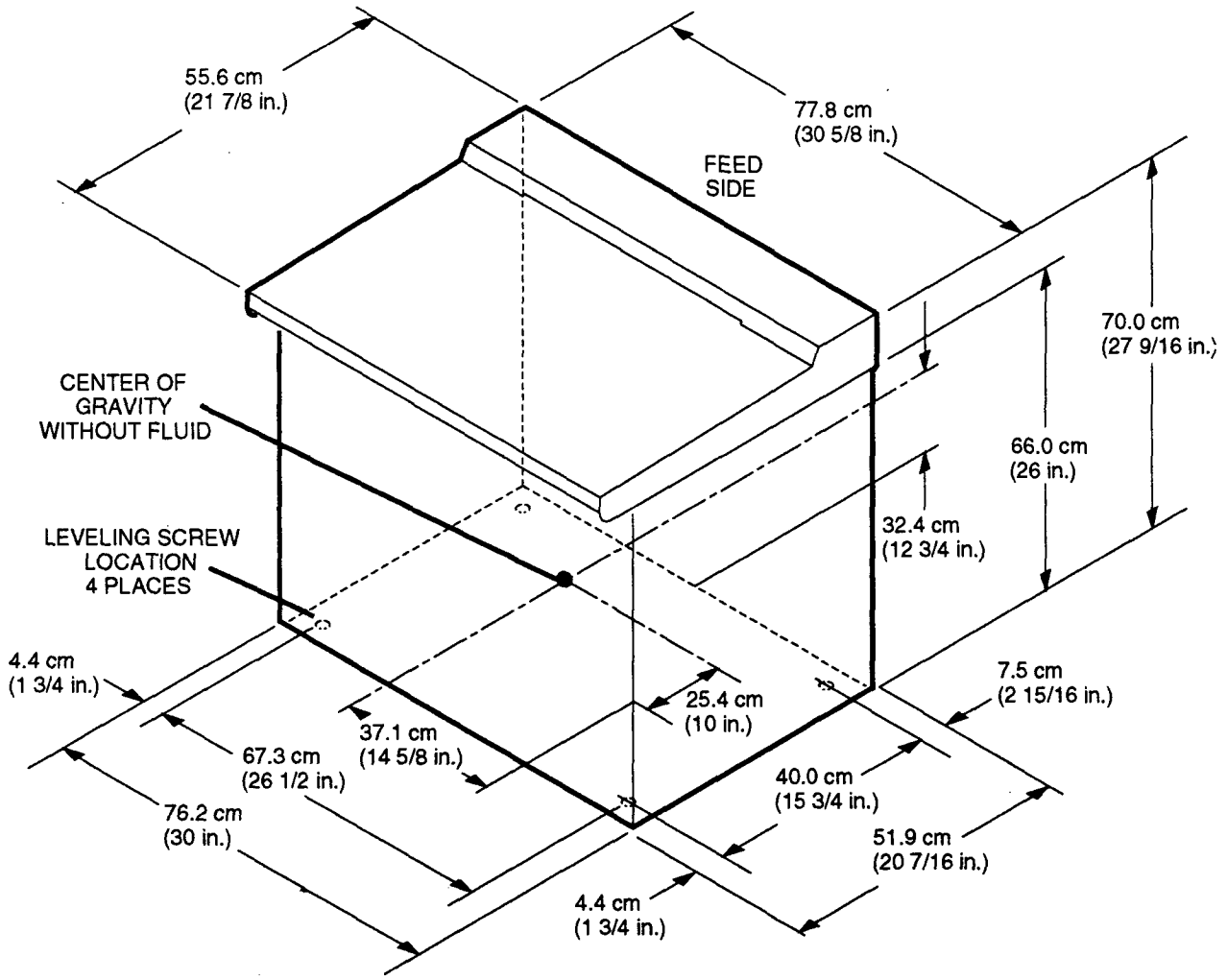
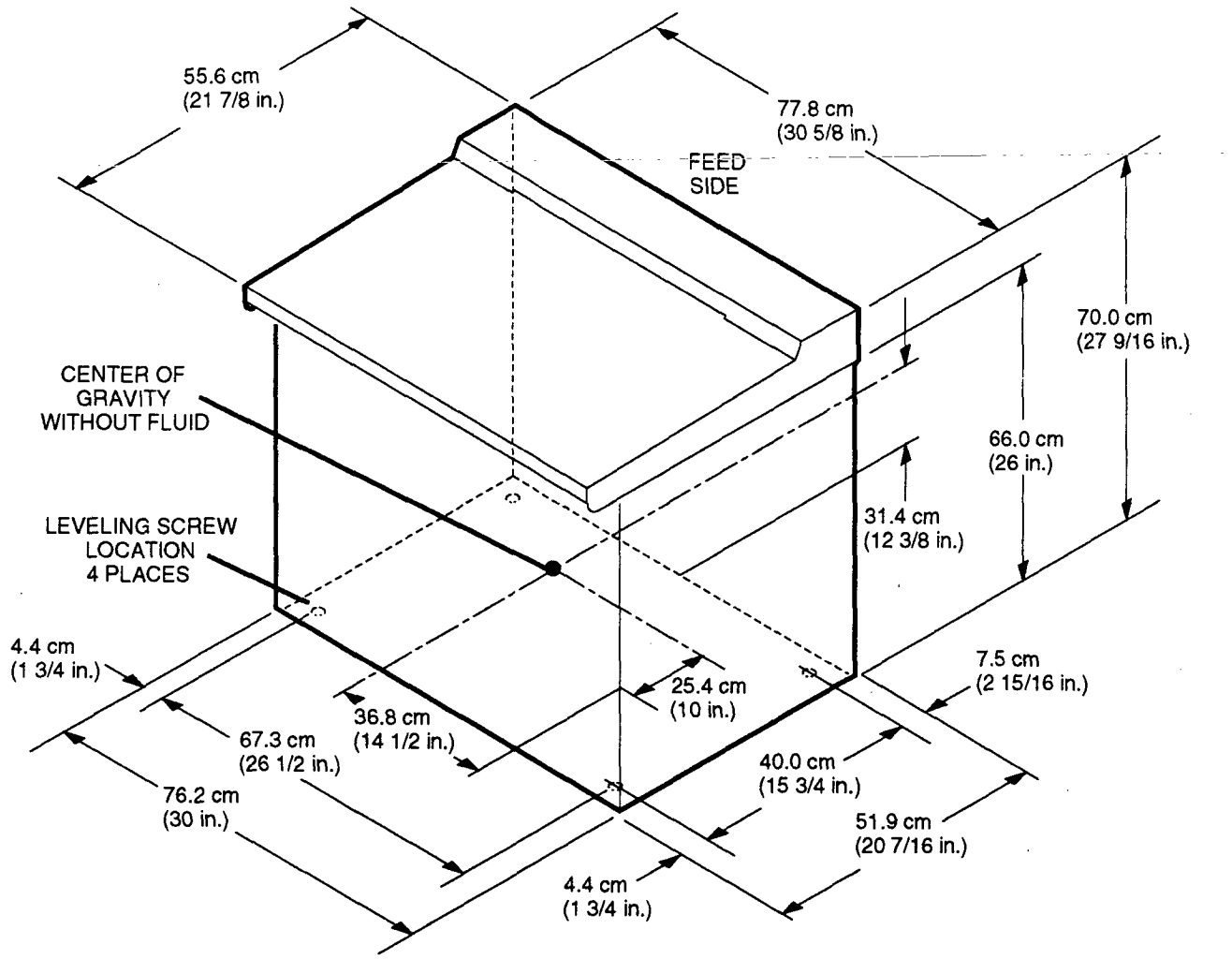


Figure 17 Center of Gravity for Model M7B

NOTE

Center of gravity is shown for the processor with the developer, fixer, and wash tanks empty.



H142_0023DA

Figure 18 Center of Gravity for Model M7B-E

NOTE

Center of gravity is shown for the processor with the developer, fixer, and wash tanks empty.

Warranty

Kodak warrants this *Kodak* RP *X-Omat* Processor, Models M7B and M7B-E to function correctly for six months from the date of initial installation, when installed within one year from date of shipment.

Warranty Repair Coverage

If this equipment does not function correctly during the warranty period, the dealer (for *Kodak* RP *X-Omat* Processors) who sold the equipment will provide or arrange for repair of the equipment during the dealer's normal working hours. Such repair service will include any adjustments and/or replacement of parts required to maintain your equipment in good working order.

How To Obtain Service

Should equipment require service, refer to the sales contract for details on whom to call for service, or contact the dealer (for *Kodak* RP *X-Omat* Processors) who sold the equipment.

Limitations

Warranty service is limited to the contiguous United States, the island of Oahu in Hawaii, and certain areas of Alaska.

This warranty does not cover—

- circumstances beyond the control of Kodak,
- misuse,
- abuse,
- attachments,
- accessories,
- alterations not marketed by Kodak (including service or parts to correct problems resulting from the use of such attachments, accessories, or alterations),
- failure to follow the operating instructions as recommended by Kodak,
- supply items.

Kodak makes no other warranties, express or implied, for this equipment.

Repair without charge is the only obligation of both Kodak and the dealer under this warranty. **Kodak will not be responsible for any consequential or incidental damages resulting from the sale, use, or incorrectly functioning of this equipment, even if loss or damage is caused by the negligence or other fault of Kodak.**

Such damages for which Kodak **will not** be responsible, include, but are not limited to, loss of revenue or profit, downtime costs, loss of use of the equipment, cost of any substitute equipment, facilities or services or claims of your customers for such damages.

This limitation of liability will not apply to claims for injury to persons or damage to property caused by the sole negligence or fault of Kodak or by persons under its direction or control.

3407ss_a.txt

Health Sciences
EASTMAN KODAK COMPANY
Rochester, NY 14650

KODAK and X-Omat are trademarks.

Printed on recycled paper containing 10% post-consumer waste fiber, using soybean-based inks. The post-consumer fiber is made up of Eastman Kodak Company office paper waste.

The new vision of Kodak

Pub. Pt. No. 1C0589 ©Eastman Kodak Company, 1993 Printed in U.S.A.